

It is Claimed:

1. A method for inhibiting melanocyte cells, comprising:

5 administering to the melanocytes a melanocortin receptor antagonist, the antagonist having about seven amino acid residues and being in an amount effective at concentrations of less than 250 nM to block the actions of α -melanocyte stimulating hormone on *Xenopus laevis* melanophores or on mammalian cells transfected with melanocortin receptors.

2. The method as in claim 1 wherein the antagonist is a peptide in an emulsion adapted to enhance bioavailability thereof.

3. A method of treating melanoma, comprising:

5 administering to a subject in need thereof an effective amount of a melanocortin receptor antagonist selective for the MCR-1 receptor, the antagonist being selected from the group consisting of peptide (a), (b), (c), and (d), wherein:

6 7 8 9 10 11 12

(a) is Xaa-Arg-Xaa-Arg-Pro-Xaa-Xaa, where 10 Xaa⁶ is Arg or D-Arg, Ala or D-Ala, Xaa⁸ is Ile or Ala, Xaa¹¹ is Lys or D-Lys, and Xaa¹² is amidated Leu, D-Leu, or Ala, and the Arg in the ninth position may be in the D-Arg stereoconfiguration, and wherein the peptide may have an acylated amino terminus, an anisoylated N-terminus, and/or have an amidated carboxyl terminus;

(b) is a mystixin having the sequence T_n-A₁-A₂-A₃-A₄-A₅-A₆-T_c, where T_n is an amino terminal portion having a molecular weight less than about 600 daltons and is selected to convey resistance against

- 20 enzymatic degradation; A₁ is D- or L-arginine and
D-lysine; A₂ is lysine or arginine; A₃ is leucine or
isoleucine; A₄ is leucine, isoleucine, methionine, or
valine; A₅ is methoxybenzoyl-ethyl-Gly, methoxy-
benzoylmethyl-D-Ala, Tyr(Me), Trp, Tyr, Leu, Lys, Arg,
25 4' substituted Phe (4'F, 4'I, 4'Cl, 4'NO₂), D-His, D-Lys,
D-Arg, D-Leu, D-Pro, or D-Trp; A₆ is isoleucine; with the
proviso that not all of the A₁-A₆ are in the
L-configuration; and T_c is isoleucineamide,
D-leucineamide, D-valineamide;
- 30 (c) is a compound having the sequence
Arg-Tyr-Tyr-Arg-Trp/D-Trp-Lys with the modifications as
described in (a); or,
- (d) is dynorphin A(1-13)-amide.

4. The method as in claim 3 wherein the
peptide is acetylated at the amino terminus.

5. The method as in claim 3 wherein the
peptide is amidated at the C-terminus.

6. The method as in claim 3 wherein the
peptide is anisoylated at the N-terminus.

7. The method as in claim 3 wherein the
peptide administered is encapsulated in liposomes.

8. The method as in claim 3 wherein the
peptide is p-anisoyl-[D-Arg^{6,9}, D-Lys¹¹, D-Leu¹²] dynorphin
A(6-12)-NH₂.

9. A method of modulating the activity of a
melanocortin receptor, comprising:
administering an agouti-related protein
fragment (83-132).

10. The method as in claim 9 wherein the
agouti-related protein fragment is amidated.